



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/599,515	09/29/2006	Gerhard Bock	117393-062	1134
24573	7590	03/17/2009	EXAMINER	
K&L Gates LLP			BYRNE-DIAKUN, JORI S	
P.O. Box 1135				
CHICAGO, IL 60690				
			ART UNIT	PAPER NUMBER
			4176	
			MAIL DATE	DELIVERY MODE
			03/17/2009	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/599,515	<b>Applicant(s)</b> BOCK ET AL.	
	<b>Examiner</b> Jori S. Byrne-Diakun	<b>Art Unit</b> 4176	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 29 September 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 3-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 3-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 September 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>09/26/2006</u> .  | 6) <input type="checkbox"/> Other: _____                          |

Art Unit: 4176

### **DETAILED ACTION**

*This Office Action is in response to the Applicants' communication filed on 29 September 2006 as a 371 continuation of PCT/EP04/53312. In virtue of this communication, Claims 3-6 are currently pending in the instant application.*

#### ***Priority***

1. Receipt from the international office is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

#### ***Claim Objections***

2. Claim 3 is objected to because of the following informalities: "oscillating mirror, and" in Line 4 should be replaced with --oscillating mirror; and [line-break]-- and "wherein by" should be deleted. Appropriate correction is required.

#### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 3-6 are rejected under 35 U.S.C. 102(e) as being anticipated by Cannon et al. (U.S. Patent No. 6,844,951 B2).

With respect to Claim 3, Cannon et al. discloses, in Fig. 9, an optical system for projecting a laser comprising an oscillating mirror (50, termed an “oscillator”, wherein 50 is represented in more detail in Fig. 1, specifically with regards to 60, termed a “mirror”), a laser light source (78, termed a “laser”), wherein a projection light bundle is produced starting from the light source using the oscillating mirror (see Fig. 9 for direction of the light bundle), and at least one light sensor is arranged at the edge region of the projection light bundle and detects the position of the oscillating mirror (A and B, termed “sensors”, located within limits 82a and 82b).

With respect to Claim 4, Cannon et al. further discloses that the position of the oscillating mirror is determined by correlating the modulation of the projection light bundle and of a detector signal from the light sensor (see Fig. 11, represents the oscillation angle and beam position [and thereby the oscillating mirror position] via a representation of the modulation correlated with a detector signal from sensors A and B [received that the points where the modulation of the light bundle (defined by 120, 122) crosses the “dashed lines” 124 and 126]). Cannon et al. further inherently discloses that the brightness of the projection light bundle is modulated at least in a partial region of an image to be projected (laser beam optical systems used for printing systems and scanning systems such as taught by Cannon et al. conventionally have laser light intensity controls, such as APC schemes; See Prior Art of Record Inoue et al., Col. 1, Lines 12-26 for further clarification).

Art Unit: 4176

With respect to Claim 5, Cannon et al. discloses, in Fig. 9, a method of operating an optical system for projecting a laser comprising detecting the oscillation status and position of an oscillating mirror using the light sensor (via A and B, termed “sensors”, located within limits 82a and 82b). Cannon et al. further inherently discloses obtaining a brightness level from a light sensor and modulating the brightness at least in a partial region of an image to be projected in the projection system (see Fig. 11; further: laser beam optical systems used for printing systems and scanning systems such as taught by Cannon et al. conventionally have laser light intensity controls, such as APC schemes; See Prior Art of Record Inoue et al., Col. 1, Lines 12-26 for further clarification).

With respect to Claim 6, Cannon et al. further discloses that the position of the oscillating mirror is determined by correlating the modulation with a detector signal generated from the light sensor (see Fig. 11, represents the oscillation angle and beam position [and thereby the oscillating mirror position] via a representation of the modulation correlated with a detector signal from sensors A and B [received that the points where the modulation of the light bundle (defined by 120, 122) crosses the “dashed lines” 124 and 126]).

#### ***Citation of Relevant Prior Art***

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Art Unit: 4176

- Prior Art Inoue et al. (U.S. Patent No. 5,043,745 A) teaches that conventional laser beam emitting devices have a modulation ability over the intensity of the light beam emitted;
- Prior Art Chandler et al. (U.S. Patent No. 5,221,933 A) teaches an oscillating mirror and a modulating laser;
- Prior Art Feige et al. (U.S. Patent No. 7,211,078 B2) teaches monitoring the positioned of positioned of a scanned laser using a sensor;
- Prior Art Suzuki et al. (U.S. Patent No. 5,930,019 A) teaches a laser, a pair of sensors in the light path, and a rotating polygonal reflector; and
- Prior Art Dewa et al. (U.S. Patent No. 7,133,061 B2) teaches that it was obvious to one of ordinary skill in the art at the time of invention to replace a spinning polygonal reflector with an oscillating mirror.

### ***Inquiry***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jori S. Byrne-Diakun whose telephone number is (571) 270-7555. The examiner can normally be reached on 7:30 AM to 5 PM EST, Monday thru Friday with alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thuy V. Tran can be reached on (571) 272-1828. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 4176

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. S. B./  
Examiner, Art Unit 4176  
03/13/2009

/Thuy Vinh Tran/  
Supervisory Patent Examiner, Art Unit 4176  
03/15/09